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CreationDirect via SWIFTNet

Getting started

August 2004

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Foreword

CreationDirect forms part of the CreationConnect suite of connectivity products, all of which are designed to run either independently or together as an integrated package. CreationDirect offers bi-directional high-volume data transfer and is ISO15022 compliant.

CreationDirect is a highly secure and reliable system-to-system connectivity solution that enables extensive data exchange between Clearstream Banking and its customers and can be seamlessly integrated with customers' in-house systems. CreationDirect is fully automated, making it an ideal component in a straight-through processing (STP) environment.

CreationDirect improves productivity and enables STP since it is controlled by business applications, with no requirement for manual intervention.

About this guide

Customers who are planning to implement CreationDirect via SWIFTNet file transfer are recommended to read this guide, particularly the technical Administrator who will actually manage the implementation.

This guide provides high-level descriptions of the administrative and technical steps required to enable Clearstream Banking customers to use CreationDirect via SWIFTNet file transfer through the SWIFTNet FileAct service.

It is assumed that the customer has completed the SWIFTNet migration and that their FileAct infrastructure comprises a SWIFTAlliance Gateway with FTA (File Transfer Agent) and/or FTI (File Transfer Integrated) software.

This guide contains the following chapters:

- "1. Introduction" on page 1-1, briefly introducing the solution and its impact on customers;
- "2. Implementation steps" on page 2-1, describing the steps required to implement the service, with a "check-list".

Foreword

Related publications

The objective of this guide is to support customers in their planning exercise by clarifying what they will have to do.

This guide should be read in conjunction with the following related documentation, which can be downloaded by registered users from the Clearstream web site www.clearstream.com, under Publications & Announcements / Product Documentation / CreationConnect / CreationDirect:

CreationDirect Data Interchange Specifications: SWIFT ISO formats;

CreationDirect Report Format Specifications: PDF and XML;

XML and PDF sample reports;

XML macros;

CreationConnect Security Guide.

Note: For details of scheduling reports on line for delivery via CreationDirect, please refer to the Clearstream Banking CreationOnline User Manual.

Where to get assistance

For further information or if you have specific questions regarding CreationDirect via SWIFTNet and/or communications with Clearstream, please contact the **Clearstream Connectivity Help Desk** as follows:

Tel:	+3 52-2 43-3 81 10	+49-69-211-1 15 90	+44 (0) 207 862 7100
Fax:	+3 52-2 43-63 81 10	+49-69-211-61 40 69	+44 (0) 207 862 7254
E-mail:	connect@clearstream.com		

Before contacting Clearstream Banking, please ensure that you have the following information to hand:

- Your organisation name and account number with Clearstream Banking;
- Your telephone number, fax number and E-mail address;
- Details of the problem (please have full details available);
- If you have received an error message, full details of the error, with the error message number;
- Your organisation's Distinguished Name (DN);
- If you are using FTI, any FTI error code received.

Customers should note that, as is normal practice within financial organisations, Clearstream has implemented telephone line recording to ensure that the interests of Clearstream and of its customers are protected against misunderstandings or miscommunications.

Areas subject to telephone line recording include Customer Services, the Treasury Dealing Room and back office operations. The recorded lines are the subject of an ongoing formal maintenance and quality control programme to ensure their continued effective and appropriate deployment and operation.

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1. Introduction

CreationDirect is the automated system to system interface to Clearstream Banking for bi-directional, high-volume data transfer.

CreationDirect - overview

Designed for the straight-through processing of high instruction volumes, CreationDirect is platform independent and provides high-speed, fully automated file transfer. It can link any in-house system to Clearstream Banking.

CreationDirect is an efficient, secure and reliable file transfer connectivity solution. When used with CreationOnline it gives you the benefits of enhanced instruction life cycle monitoring, online queries, exception handling and large-volume reporting providing accurate, real-time information on the status of any instruction at any time.

CreationDirect is the choice for rapid distribution of large reports. Both printable (PDF) and structured data (XML, ISO15022) report formats are available.

CreationDirect offers the choice of two connectivity options: CreationDirect via virtual private network (VPN) and CreationDirect via SWIFTNet:

- CreationDirect via VPN uses Clearstream's VPN for exchanging business information between customers and Clearstream. The Clearstream VPN is operated by Equant.
- CreationDirect via SWIFTNet is based on the SWIFTNet FileAct service.

CreationDirect - benefits

CreationDirect integrates with your existing in-house system, enabling you to continue working with your current infrastructure. Since it is fully automated and requires no manual intervention, CreationDirect facilitates true straight-through processing for maximum efficiency, lower costs and fewer processing errors.

The direct interface with common office automation applications means that you can easily process data for business analysis. Fast, high-performance processing makes CreationDirect ideal for high-volume requirements.

CreationDirect via SWIFTNet - features

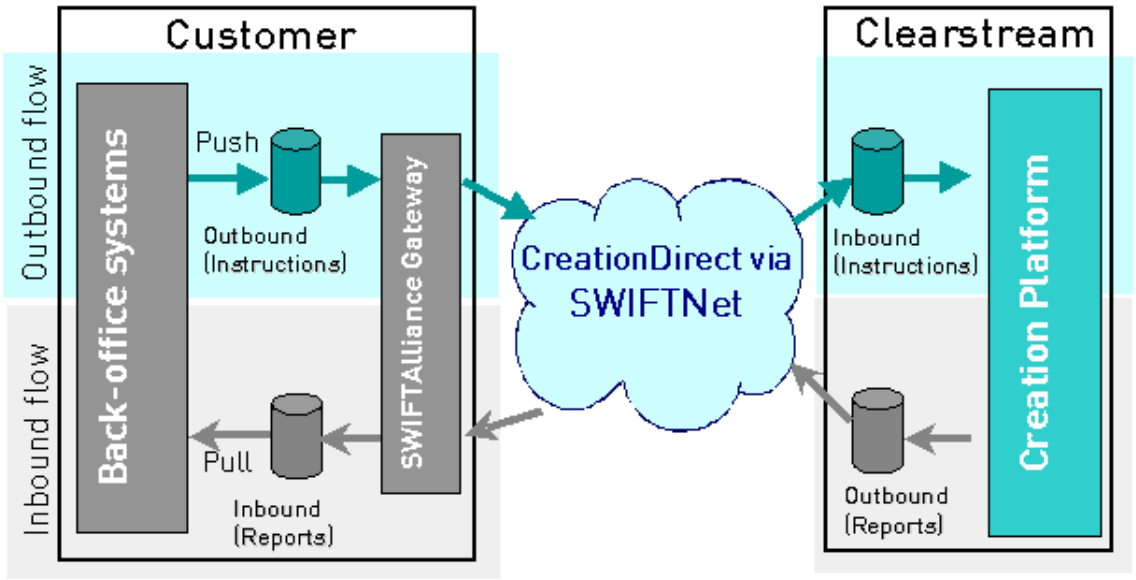
CreationDirect via SWIFTNet, jointly operated by Clearstream Banking and S.W.I.F.T., provides Clearstream customers with an additional connectivity option through SWIFTNet, using a file-based communications mechanism.

CreationDirect via SWIFTNet implements high degrees of availability, robustness and security as is required for solutions that transport sensitive and confidential information.

The interface to the CreationDirect via SWIFTNet service masks the intrinsic complexities of the underlying technologies so that the internal operational aspects are transparent to the service user. The architecture externalises, to customer systems, a simple interface on top of the SWIFTAlliance Gateway that performs all the processing.

The interface comprises two main directories:

- A send (**outbound**) directory, into which the customer applications simply deposit instruction files (that is, files that are to be sent); and
- A receive (**inbound**) directory, from which the customer applications retrieve report files (files that have been received).



As shown in the schematic diagram above, the solution is based on file transfer. The processing is fully automated once the files have been deposited in the outbound directory. The impact on customer internal systems is very low, provided that the customer's current back-office system is also based on file transfer.

Customer business applications that support file-based processing of business information can be interfaced to CreationDirect via SWIFTNet without the need to pre-process the files.

Customer business applications that are based on processing business information in message format can also benefit from CreationDirect via SWIFTNet. In an intermediate processing step, the business information must be extracted from the files and transformed into the internal format of the business application.

This approach ensures that business applications can benefit from the efficiencies that CreationDirect via SWIFTNet can achieve independent of underlying processing methods, whether they are file-based or message-based.

Formats supported

The formats supported include, for reporting, XML, PDF and ISO (15022) and, for instructions, ISO.

The **XML** (Extensible Markup Language) format allows you to use, for example, Microsoft Excel or Access, to further analyse the reports (for instance, for reconciliation purposes). Clearstream Banking provides Excel macros that enhance the usability of reports in XML format. The macros are readily available for download from the Clearstream web site.

The **PDF** (Portable Document Format) format allows you to receive business information in a printable report format. PDF reports can be available to end-users without the need for further processing. PDF reports can be viewed, printed and/or archived. To view the files, you need Adobe Acrobat Reader, which you can download free of charge from the Adobe web site.

The **ISO** format is also used in Creation via SWIFT. Creation via SWIFT is the Clearstream connectivity solution that is based on the underlying SWIFTNet FIN service. The SWIFT format is regularly updated to comply with the most recent SWIFT and ISO specifications and Market Practices recommendations.

Note: These PDF and XML reports are regularly updated to reflect the latest changes applicable to the SWIFT and ISO formats. In this way, all reports available in PDF or XML format contain basically the same information as do the SWIFT reports.

Compression

Any data transport charges incurred by Clearstream Banking for sending report files to customers via CreationDirect using the SWIFTNet FileAct Service will be charged back at cost. This applies in particular to the applicable SWIFTNet FileAct charges, which are, in principle, based on files size. Customers are recommended to implement compression in order to derive maximum cost benefits from using CreationDirect via SWIFTNet.

It is the customer's choice whether to implement compression or not. Clearstream strongly advises that you use compression and provides compression as an option.

Compression requirements must be specified during the customer subscription process. The tool used by Clearstream is GZIP (v 1.2.4), which is available free of charge from the GZIP web site.

Character sets supported

XML and PDF format files are always sent as binary files.

For ISO format files, depending on the customer's platform, the choice is available between the ASCII (ISO 8-bit) and IBM's EBCDIC character sets. This choice must be specified during the customer profile setup process.

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2. Implementation steps

The steps to follow to connect to CreationDirect via SWIFTNet depend on the details of your current SWIFT connection.

The installation of the service at your site can be greatly simplified in the following circumstances:

- You are already a SWIFT member or participant.
- You already have a connection with a SWIFTNet service at your site.
- Your infrastructure includes a SWIFTAlliance Gateway, operational and ready to access the FileAct services.

Also, the Single Window concept of SWIFTNet enables you to reuse the same interface and communications pipe that you already use for other SWIFTNet services. In this case, you need only ensure that your connectivity infrastructure includes the SWIFTAlliance Gateway with FTA (File Transfer Agent) and/or FTI (File Transfer Integrated) software to enable access to the service.

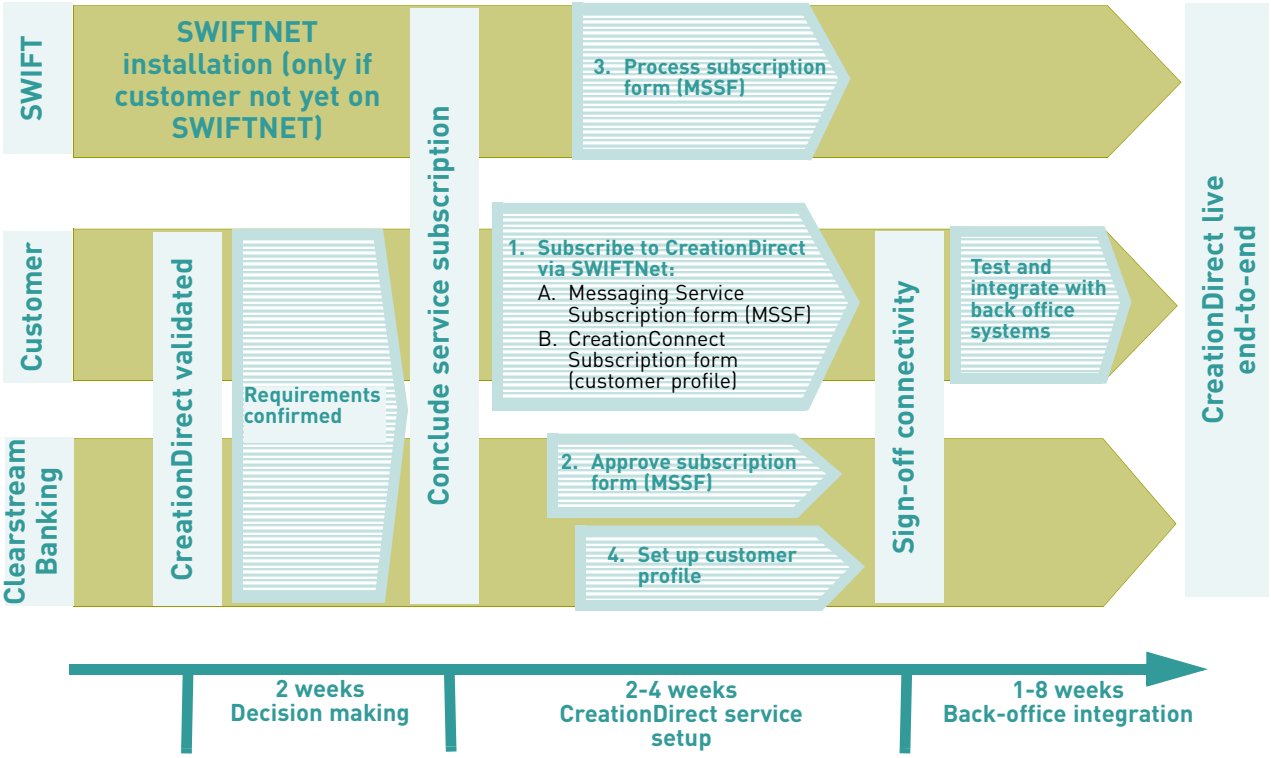
This guide assumes that your transition to SWIFTNet is complete, and that your systems infrastructure also includes the SWIFTAlliance Gateway with FTA and/or FTI. The steps described hereafter do not include those required to install SWIFTNet and the infrastructure to access the FileAct services at your site.

Note: For more details of the Single Window concept, SWIFTNet installation and the configuration required to access SWIFTNet FileAct services, please consult your SWIFTNet representative.

Implementation process

The implementation process for CreationDirect via SWIFTNet includes the following three steps:

1. Decision making
2. CreationDirect service setup
3. Back-office integration



Step 1. Decision making

Before implementing the service, you must confirm your requirements. The main points to clarify before implementing the service are as follows:

- **Choice of channel for each business need:** CreationConnect provides access to Clearstream via three channels: CreationOnline, CreationDirect and SWIFT. You can combine these three channels for both inbound and outbound communication, providing full flexibility.
- **Reporting needs:** If CreationDirect via SWIFTNet is to be used for reporting purposes, a choice of reports is available at multiple times during the day. The choice of frequency of the reporting is identical for all connectivity channels. The reports and their availability are presented in the relevant subscription forms.
- I**nstruction files:** CreationDirect can also be used to submit instruction files. For details of which message types can be submitted via this service, please refer to Clearstream Banking CreationDirect Data Interchange Specifications: SWIFT ISO Formats.
- **Compression:** You must decide whether to use compression. You are strongly advised to compress files during the transmission as this can achieve reductions in data transport charges. GZIP version 1.2.4 is supported and is compatible with several different platforms and with most

compression tools, including the popular WinZip. The deployment of this tool is the responsibility of the customer.

Step 2. CreationDirect Service setup

Subscription to SWIFTNet and the profile setup process require that you perform the following steps, which can be performed in parallel:

1. Complete the CreationDirect via SWIFTNet Subscription form and, if required, the CreationDirect via SWIFTNet Installation Details form[1] (both available from the Clearstream Banking web site) and send the completed form(s) to Clearstream Banking for the attention of Connectivity Customer Services.

   Your profile will be added to the customer reporting database and, if you have included the Installation Details form, the reports indicated on it will be scheduled for the requested start date.

2. Complete Section 1 of the SWIFTNet Messaging Service Subscription Form (MSSF) and send it to the clearstream.cd[2] Service Administrator at Clearstream Banking.

   The Service Administrator, in consultation with you, completes Section 2 of the form and returns it to their SWIFT Service Manager, with a copy to you.

Step 3. Back-office integration

"1. Introduction" on page 1-1 already introduces how to interface your back-office application with SWIFTNet clearstream.cd[2].

The CreationDirect system is based on exchanging data files between customers and Clearstream Banking. The clearstream.cd service has been designed to facilitate communications between your internal environment and Clearstream.

As depicted in "1. Introduction" on page 1-1, clearstream.cd externalises to the back-office system a simple interface that masks the underlying complexities. The interface consists of two directories:

- The **outbound** directory, which contains files from the back-office application destined for Clearstream;
- The **inbound** directory, which contains the resulting files from Clearstream, destined for your internal application.

Both of these outbound and inbound directories are processed by the SWIFTAlliance Gateway and its FTA (File Transfer Agent) and/or FTI (File Transfer Integrated) software.

Testing facility

To facilitate the integration with your back office, a comprehensive testing facility is available. It includes the following main features:

- Automated technical validation of test instruction files;
- Retrieval of sample reports from a test address.

It is also possible to use production reports for testing purposes. On implementation of CreationDirect via SWIFTNet, Clearstream allows a grace period during which reports can be received free of charge[3].

1. The Installation Details form need not be completed if, when your CreationDirect via SWIFTNet subscription has been processed and your profile has been set up at Clearstream Banking, you intend to schedule your reports via CreationOnline.
2. "clearstream.cd": the name of the internal SWIFTNet service that allows customers to access the CreationDirect File Transfer Service.
3. This does not include data transport charges incurred by Clearstream Banking, in particular the applicable SWIFTNet FileAct charges, which will be charged back to the customer at cost.

The details of this grace period are defined in the Clearstream Banking Fee Schedule which is available on the Clearstream Banking web site.

For details and availability of test facilities, please contact your Clearstream Banking Relationship Officer.

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